Charging of Basic Structural Shapes in a Simulated Lunar Environment

P. Craven, T. Schneider, J. Vaughn
NASA Marshall Space Flight Center

J. Wang, J. Polansky
University of Southern California

In order to understand the effect of the charging environment on and around structures on the lunar surface, we have exposed basic structural shapes to electrons and Vacuum Ultra-Violet (VUV) radiation. The objects were, in separate runs, isolated, grounded, and placed on dielectric surfaces. In this presentation, the effects of electron energy, VUV flux, and sample orientation, on the charging of the objects will be examined. The potential of each of the object surfaces was monitored in order to determine the magnitude of the ram and wake effects under different orientations relative to the incoming beams (solar wind). This is a part of, and complementary to, the study of the group at USC under Dr. J. Wang, the purpose of which is to model the effects of the charging environment on structures on the lunar surface.